

Conference 19 Case 1  
Tissue from a dog.

**MICROSCOPIC DESCRIPTION:** Parathyroid gland. At one edge of the thyroid gland, arising from the parathyroid gland **(1pt.)**, there is a 1.25cm **(1pt.)** diameter nodular, expansile, unencapsulated, moderately cellular neoplasm **(2pt.)**. The neoplasm is composed of nests and packets **(1pt.)** of polygonal cells **(1pt.)** on a fine fibrovascular stroma **(1pt.)**. Neoplastic cells have indistinct cell borders with a moderate amount of a finely granular brown **(1pt.)** cytoplasm **(1pt.)**. Nuclei are irregularly round with finely stippled chromatin and 1-2 small basophilic nucleoli. **(1pt.)** There is mild anisokaryosis and anisocytosis. **(1pt.)** Mitotic figures are rare. **(1pt.)** There is small amounts of normal parathyroid gland at the periphery, and there is normal parathyroid tissue elsewhere in the gland.

**MORPHOLOGIC DIAGNOSIS:** Parathyroid gland: Adenoma. **(4pt.)**

**NAME TWO POSITIVE IMMUNOSTAINS:** Synaptophysin, calcitonin, chromogranin A **(2pt.)**

**WHAT WOULD THE CALCIUM AND PHOSPHORUS LEVELS BE?** Hi Ca, Lo P (except in animals with chronic renal disease, where it would be a high P) **(2pt.)**

**O/C: (1pt.)**

Conference 19 Case 2

Tissue from a dog.

**MICROSCOPIC DESCRIPTION:** Fibroadipose tissue: Multifocally effacing approximately 85% of the tissue are two distinct neoplasms. The first neoplasm is an infiltrative, unencapsulated, poorly demarcated, nodular, and moderately cellular mass. **(1pt.)** Neoplastic cells are arranged in short haphazardly arranged bundles **(1pt.)** on a fine collagenous matrix. Neoplastic cells are spindled, with a small amount of homogenous eosinophilic cytoplasm. **(1pt.)** Nuclei are monomorphic, oval to elongate with finely stippled chromatin and 1-2 small basophilic nucleoli. **(1pt.)** Mitoses are rare. **(1pt.)** There are extensive areas of mature fibrous connective tissue within the neoplasm, especially at the deep margin which it shares with the second neoplasm described below. **(1pt.)** Pre-existing adipocytes and nodules of lymphocytes are scattered throughout the neoplasm. Approximately 50 percent of the section is effaced by a second mesenchymal neoplasm. This neoplasm is infiltrative, moderately cellular, vaguely nodular, poorly demarcated and unencapsulated. **(1pt.)** Neoplastic cells are also arranged in short streams and bundles **(1pt.)** on a fine fibrous matrix. Neoplastic cells are mesenchymal, with a moderate amount of a densely basophilic cytoplasm and indistinct cell borders **(1pt.)** (osteoblasts). **(1pt.)** Nuclei are irregularly round, often excentric, with 1-2 prominent basophilic nucleoli and finely stippled chromatin. **(1pt.)** The mitotic activity index of this neoplasm is 17 per ten 400X fields (2.37mm<sup>2</sup>) **(1pt.)** There is moderate anisokaryosis and anisocytosis. **(1pt.)** Throughout this neoplasm, neoplastic cells produce, surrounded and are occasionally entrapped by osteoid **(1pt.)**, which is occasionally mineralized **(1pt.)** There are numerous multinucleated osteoclasts scattered throughout the neoplasm **(1pt.)**

**MORPHOLOGIC DIAGNOSIS:** 1. Fibrovascular tissue: Peripheral nerve sheath tumor. **(2pt.)**  
2. Fibrovascular tissue: Osteosarcoma. **(2pt.)**

**(O/C): (1pt.)**

Conference 19 Case 3  
Tissue from a dog.

(This is really not a slide worth describing or grading out. And I hate the stain.)

**MICROSCOPIC DIAGNOSIS:** Adrenal gland and periadrenal adipose tissue: Approximately 75% of the gland, to include all levels of the cortex as well as the medulla is necrotic and replaced by abundant hemorrhage and cellular debris. Small amounts of the zona glomerulosa and approximately 25% of the zone reticularis remain; there is no viable medulla remaining. Pre-existent hyperplastic intra- and extracapsular adrenocortical tissue is also necrotic, and there is hemorrhage within the extracapsular adipose tissue.

**MORPHOLOGIC DIAGNOSIS:** Adrenal gland: Necrosis, cortical and medullary, subtotal, with hemorrhage

**CAUSE:** Trilostane OP-DDD, ketoconazole

**O/C: (1 pt.)**

Conference 19, Case 4

Tissue from a lamb.

(Once again, not a slide for describing.)

**MICROSCOPIC DESCRIPTION:** Thyroid gland: Diffusely, follicles are markedly increased in size up to 2mm in diameter, and colloid is pale pink. The follicular epithelium is often detached and free floating within the colloid. There is a central cyst within the gland which is lined by attenuated epithelium.

Haired skin. There are two sections of haired skin on the slide; one is a presumably normal control. The second section of skin has a diminished number of hair follicles, approximately a third of the control section. Hair follicles appear within normal morphology however, although approximately 40% lack hair shafts. The intervening dermis contains increased amounts of bluish ground substance (myxedema). There is mild overlying orthokeratotic hyperkeratosis.

**MORPHOLOGIC DIAGNOSIS:**

1. Thyroid gland: Follicular hyperplasia, diffuse, moderate.
2. Thyroid gland: Cyst.
3. Haired skin: Hypotrichosis, diffuse, moderate with myxedema.

